

Name: _____

Chapter 9 Practice Test

The problems on this Practice Test are very similar to the problems on the actual test.

Part One: Naming Polynomials: Write each polynomial in standard form, then name by term and by degree.

1. $6y - 11 + 3y$

2. $-x^2 + 4 + x^2$

3. $c^3 - 2c$

4. $8x^2y^4 - 2x^3y^4$

5. $\frac{88}{x}$

Part Two: Operations with Polynomials: Perform each operation. Write all answers in simplified, standard form.

6. $(8x^4 + 2x^3 - 9x - 10) + (5x^3 - 2x^2 + 10x - 12)$

7. $(-6y^3 - 9y^2 + 1) - (5y^3 - 10y - 8)$

8. $5t^3(2t^2 - 9 + t)$

9. $(y + 8)(y - 9)$

10. $(2h^2 + 8)(-3h^2 - 2h)$

11. $(2d^2 - 4d + 1)(6d - 8)$

12. $(2x + 3y)^2$

Part Three: Algebraic Writing: Please answer in complete sentences using algebraic terms. Echo the prompt.

13. How many multiplications will you complete if you multiply a trinomial by a polynomial with seven terms? Explain how you arrived at this answer.

14. After writing the polynomial in standard form, what is the first step to any factoring problem? Why should you do this first?

Part Four: Factoring: Factor each polynomial as completely as possible. If the polynomial cannot be factored at all, write PRIME. BOX your final answers.

15. $6x^2 - 8x$

16. $x^2 + 6x + 8$

17. $y^2 - 8y + 7$

18. $a^2 - 3a - 40$

19. $9u^2 - 25$

20. $6y^2 - 38y - 144$

21. $32b^2 - 28b + 5$

22. $6x^4 - 9x^3 - 36x^2 + 54x$

Part Five: Polynomial Geometry: Read each section carefully. Annotate!

23. The Situation: You are designing a rectangular pool. You want the length of the pool to be three more than thrice the width.

a. The width of the pool is represented by the variable w . Write an expression for the length in terms of the width, using w .

b. Draw a diagram to represent the situation. Label all relevant parts.

c. Write a simplified expression in standard form for the perimeter of the pool.

d. Write a simplified expression in standard form for the area of the pool.

e. You are adding a rectangular border that is three feet wide. Sketch and label the new pool and write a simplified expression in standard form for the area of the pool and the border combined.